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EXAMINER

CORDRAY, DENNIS R

ART UNIT	PAPER NUMBER
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1741

NOTIFICATION DATE	DELIVERY MODE
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03/03/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/575,017	Applicant(s) BECKER ET AL.	
	Examiner DENNIS CORDRAY	Art Unit 1741	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-19 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/14/2011 has been entered.

Response to Arguments

Applicant's amendments filed 1/14/2011 have failed to overcome the cited prior art for the following reasons.

In the previous Office Action mailed 7/14/2010, the following statements were made:

“Darsillo et al does not specify a coating weight outside of the examples. One of ordinary skill in the art would have been guided to use 15 gsm as a coating weight (as used in the examples) with any of the coating compositions embodied by the disclosure.”

Upon reconsideration of the reference, the statements are found to be incorrect.

Darsillo et al discloses that the glossy coating can be of any suitable thickness, in particular from about 1 μm to about 50 μm in thickness (p 2, par 37). In addition, the coating composition comprises a total amount of binder from about from about 1% to about 50% of the composition (i.e., dry binder and particles combined) (p 7, par 78).

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Thus, in some embodiments, the composition comprises close to 100% pigment particles based on the dry weight of the composition. Disclosed pigment particles from the first group include metal oxides such as silica, alumina, titania (titanium dioxide), zirconia, ceria and magnesia (p 3, par 44). Disclosed pigment particles from the second group include silica, alumina, calcium carbonate, kaolin, titanium dioxide, talc and other common filler pigments (p 5, par 59). The specific gravity of the above materials is generally between 2.1 and 2.75 (see "Specific Gravity of Fillers and Reinforcements" and "Filler Minerals Reference," p 2 if evidence is needed), thus the pigment particles have a density of approximately 2.1 to 2.75 g/m². Using this range of density and the disclosed thickness of the coating, the weight of the coating can be calculated to be from about 2.1 g/m² to about 137 g/m², which overlays the currently claimed range.

Applicant's arguments filed 1/14/2011 have been fully considered but they are not persuasive.

Applicant argues (pp 4-5) that the amount of binder in the coatings of Darsillo et al must be significantly large to achieve the objectives of the invention. Applicant also argues that the objectives are achieved first and foremost by having two pigment groups that form a very dense packing structure in the presence of relatively high amounts of binder. Applicant also call attention to the examples of Darsillo et al (p 5), in which coating weights of 15 g/m² are used.

A reference is not limited to its preferred embodiment, but must be evaluated for all of its teachings, including its teachings of non-preferred embodiments. In re Burckel,

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592 F.2d 1175, 201 USPQ 67 (CCPA 1979). While preferred amounts of binder to pigment are disclosed, Darsillo et al does not criticize, discredit, or otherwise discourage the use of the broader ratios disclosed. Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971).

Applicant's arguments that a large amount of binders as well as a large coat weight are required to achieve the disclosed objectives are arguments of counsel and cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness.").

The arguments regarding the solids content and viscosity of the coatings of Darsillo et al (p 6) do not appear to relate to the current claims, since the claims fail to recite a solids content and/or viscosity of the coating preparation.

Applicant argues (pp 6-7) that the disclosures of Darsillo et al and Moreland are not analogous because Moreland is directed to very specific printing systems, and to paper and ink that each have a reactive component of a two part epoxy system, which is completely remote from any regular offset printing process.

Regarding the combination of Darsillo et al and Moreland, both references are directed to a paper and a paper that is printed on. The purpose for using Moreland in the combination was not to disclose features of a coating or specific printing process,

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but to teach what is generally known to those of ordinary skill in the art, that (1) conventional fillers used in paper are precipitated or ground calcium carbonate (reads on chalk), talc, clay, titanium dioxide, calcium sulfate (gypsum), silicates, etc. to fill voids in the paper and to enhance the appearance of the printed page and (2) that other conventional additives are used in paper including binders, dispersants, fluidity improvers, thickening agents, defoamers, dyes and other coloring agents, strengthening agents, etc. The claimed invention requires the paper substrate to contain a filler, and recites conventional fillers known to those of ordinary skill in the art (as taught by Moreland). The claims also require the paper substrate to contain at least one additive. Moreland teaches conventional additives used in paper. In its broadest sense, an additive to the paper can also be the filler or fibers.

The rejections based on Darsillo et al are maintained, but have been modified to address the amended claims. In addition, new rejections are made as detailed herein.

Claim Objections

Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 5 recites that from 0.45 to 17.5 g/m² of pigment are present per side in the preparation. Claim 5 depends from Claim 1, which recites that the preparation has a

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coat weight of from 0.5 to 7 g/m² per side. Claim 5 thus expands rather than further limits a previous claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15 and 17 recite that “the coating contains ...” but fail to recite whether the referenced coating is the further coating of Claim 14 or the preparation of Claim 1 that is applied to the paper and has a specified coat weight (thus is also a coating).

Claim Rejections - 35 USC § 112-4th

The following is a quotation of the fourth and fifth paragraphs of 35 U.S.C. 112:

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which it is being considered.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, for failing to specify a further limitation of the subject matter of a previous claim to which it refers and for failing to incorporate all of the limitations of the claim to which it refers.

Claim 5 recites that from 0.45 to 17.5 g/m² of pigment are present per side in the preparation. Claim 5 depends from Claim 1, which recites that the preparation has a coat weight of from 0.5 to 7 g/m² per side. Claim 5 fails to specify a further limitation of the subject matter of Claim 1 and also fails to incorporate the narrower limitation of Claim 1.

Claim Rejections - 35 USC § 102 and 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-8 and 14-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Darsillo et al (US 2002/0004131) as evidenced by Plastics Design International, Inc. "Specific Gravity of Fillers and Reinforcements" and R.T. Vanderbilt Company, Inc. "Filler Minerals Reference".

Claims 1, 5-7 and 8: Darsillo et al discloses a recording medium comprising a paper substrate having a glossy coating thereon. The glossy coating comprises a binder and first and second groups of particles. The first group comprises metal oxide particles having a size less than 100 nm in diameter and aggregates of the particles having a diameter from about 100 nm to about 500 nm. The second group comprises

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metal oxide or semimetal oxide particles having a mean diameter less than about 50% of the aggregates (Abs; p 1, pars 8-13; p 2, par 27; p 5, pars 58-59). The particles in each group have an overall cationic, nonionic or anionic charge (p 3, par 44). The glossy coating can comprise a surfactant and other additives (p 6, par 63). A partial coating is not disclosed, thus the entire surface is coated or, at least, coating the entire surface would have been obvious to obtain a uniform paper and uniform printing properties.

Darsillo et al discloses that the glossy coating can be of any suitable thickness, in particular from about 1 μm to about 50 μm in thickness (p 2, par 37). In addition, the coating composition comprises a total amount of binder from about from about 1% to about 50% of the composition (i.e., dry binder and particles combined) (p 7, par 78), which overlays the claimed ratio of binder to pigment. In some embodiments, the composition close to 100% pigment particles based on the dry weight of the composition. Disclosed pigment particles from the first group include metal oxides such as silica, alumina, titania (titanium dioxide), zirconia, ceria and magnesia (p 3, par 44). Disclosed pigment particles from the second group include silica, alumina, calcium carbonate, kaolin, titanium dioxide, talc and other common filler pigments (p 5, par 59). The specific gravity of the above materials is generally between 2.1 and 2.75 (see "Specific Gravity of Fillers and Reinforcements" and "Filler Minerals Reference," p 2 if evidence is needed), thus the pigment particles have a density of approximately 2.1 to 2.75 g/cm^3 . Using this range of density and the disclosed thickness of the coating, the weight of the coating can be calculated to be from about 2.1 g/m^2 to about 137 g/m^2 ,

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which overlays the currently claimed range. Combined with the calculated coating weight, an amount of pigment particles within the claimed range can be calculated.

Claim 3: In some examples, an amount of surfactant used is 1% of the amount of pigment, thus a weight of surfactant within the claimed range can be calculated (p 11, Table 8; p 12, Table 12).

Claim 4: Cationic, anionic and nonionic surfactants are disclosed (p 6, par 63).

Claims 14-17: Darsillo et al discloses that the substrate can have more than one coating layer, which can be the same (p 2, par 38), thus, a second layer having the claimed composition and coated onto the first is embodied.

Claims 18 and 19: Darsillo et al discloses a method of making the recording medium comprising coating the substrate to provide a coated substrate (p 1, par 15).

Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darsillo et al in view of Moreland and as evidenced by Stoye et al ("Paints, Coatings and Solvents").

The disclosure of Darsillo et al is used as above. Darsillo et al does not disclose that the paper substrate comprises a filler or other additives.

Moreland discloses that conventional fillers used in paper are precipitated or ground calcium carbonate (reads on chalk), talc, clay, titanium dioxide, calcium sulfate (gypsum), silicates, etc. to fill voids in the paper and to enhance the appearance of the printed page (col 3, lines 22-30). Other conventional additives used in paper include

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binders, dispersants, fluidity improvers, thickening agents, defoamers, dyes and other coloring agents, strengthening agents, etc. (col 3, lines 32-46).

The art of Darsillo et al, Moreland and the instant invention is analogous as pertaining to papers used for printing. It would have been obvious to one of ordinary skill in the art to include the claimed fillers and other additives in the paper substrate of Darsillo et al in view of Moreland as conventional components in printing paper. Many of the disclosed fillers have the claimed oil number (see Stoye et al, pp 154-155, Table 4.2) or, at least, obtaining the claimed values would have been obvious to one of ordinary skill in the art from the values in Stoye et al. The fillers have cavity volumes as revealed by the disclosed oil numbers.

Claims 1, 4-8 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobsein et al (US 20050215704) in view of Rice et al (US 3281267).

Claims 1, 7, 8 and 18: Bobsein et al discloses a paper substrate having a coating (preparation applied to at least one side of the paper) comprising from 100 parts by weight pigment, from 1.6 to 9.8 parts by weight binder, surfactants or dispersants. The composition overlays the claimed composition. A process for making the paper comprises coating the paper with about 1 to 30 g/m², preferably from 3 to 12 g/m² of the coating composition (p 1, pars 8 and 9; p 4, pars 33, 34 and 37; p 5, pars 39 and 40). Suitable pigments include silica and titanium dioxide (metal oxide) (p 4, par 35).

Bobsein et al does not disclose the particle diameter of the pigment.

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Rice et al teaches that titanium dioxide suitable for paper coatings is a standard grade pigment having a particle size of 0.3-0.4 micron, or 300-400 nm (col 1, lines 8-10; col 2, lines 16-20).

The art of Bobsein et al, Rice et al and the instant inventions is analogous as pertaining to paper coating pigments. It would have been obvious to one of ordinary skill in the art to use a standard grade of titanium dioxide having the claimed particle diameter as the pigment in the coating of Bobsein et al in view of Rice et al as a common pigment used in paper coatings. A partial coating of the paper is not disclosed, thus coating at least one side all over would have been obvious.

Claim 4: the surfactant is inherently cationic, anionic, nonionic or amphoteric.

Claim 5: the disclosed coating weight embodies amounts of pigment within the claimed range.

Claim 6: the pigment inherently has an overall cationic, anionic or nonionic charge.

Claims 14-17 and 19: Bobsein et al discloses that the coating may be applied using two or more steps to build the final coat weight (p 5, par 40), thus in some embodiments at least one further coating is present on the side of the paper on which the preparation is applied. The additional coatings comprise the same composition as the first.

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Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobsein et al in view of Rice et al and further in view of Moreland and as evidenced by Stoye et al ("Paints, Coatings and Solvents").

The disclosures of Bobsein et al and Rice et al are used as above. Bobsein et al and Rice et al do not disclose that the paper substrate comprises a filler or other additives.

Moreland discloses that conventional fillers used in paper are precipitated or ground calcium carbonate (reads on chalk), talc, clay, titanium dioxide, calcium sulfate (gypsum), silicates, etc. to fill voids in the paper and to enhance the appearance of the printed page (col 3, lines 22-30). Other conventional additives used in paper include binders, dispersants, fluidity improvers, thickening agents, defoamers, dyes and other coloring agents, strengthening agents, etc. (col 3, lines 32-46).

The art of Bobsein et al, Rice et al, Moreland and the instant invention is analogous as pertaining to papers used for printing. It would have been obvious to one of ordinary skill in the art to include the claimed fillers and other additives in the paper substrate of Bobsein et al in view of Moreland as conventional components in printing paper. Many of the disclosed fillers have the claimed oil number (see Stoye et al, pp 154-155, Table 4.2) or, at least, obtaining the claimed values would have been obvious to one of ordinary skill in the art from the values in Stoye et al. The fillers have cavity volumes as revealed by the disclosed oil numbers.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS CORDRAY whose telephone number is (571)272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Daniels can be reached on 571-272-2450. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dennis Cordray/
Examiner, Art Unit 1741

/Matthew J. Daniels/
Supervisory Patent Examiner, Art Unit 1741